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Research Article Open Access

The Help Seeking Behaviours of Patients with Ulcerative Skin Lesions before Consultation in Yurimaguas, Peru

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Abstract

Background: In a tropical setting such as Peru, skin ulcers are commonly caused by infectious diseases such as leishmaniasis. Early treatment results in improved patient outcomes. By exploring the health beliefs and behaviours of a patient it is possible to identify barriers to healthcare that prevent early treatment. These barriers could be addressed by public health schemes and also assessed quantitatively. To date there has been no research regarding this topic.

Methods: A qualitative study was carried out in Yurimaguas, Peru. Nine semi-structured interviews were conducted with the help of a translator in February 2015. Patients were included if they had consulted a doctor in the past because of a skin ulcer. The transcripts were analysed using thematic content analysis and themes were developed.

Results: Three main themes emerged from the data. 1) Many patients use their own treatments. These treatments can be harmful because of their inherent nature or because they delay consultation with a doctor. 2) Many of the participants relied on the advice of family and friends. This advice often encouraged the use of alternative remedies and thus delayed health-seeking behaviour. Participants stated that they themselves would give the same advice. 3) The main barriers to health care were identified in this population. These barriers included local strikes, lack of knowledge about skin ulcers, living in a rural location, informal consultations with family and friends and the diagnostic lag time for Leishmania infections.

Conclusion: There are significant barriers, beliefs and behaviours identified that can be addressed by public health schemes. These schemes would decrease the time it takes for patient to consult a doctor and thus improve patient outcomes.

Keywords: Ulcer; Peru; Health behaviours; Leishmaniasis; Interviews; Qualitative research

Abbreviations

NTD: Neglected Tropical Diseases; HBM: Health Belief Model

Introduction

A skin ulcer is defined as a lesion that has eroded the skin or mucous membrane [1]. They can be caused by a range of diseases. However in a tropical setting, such as Peru, the most common cause of a skin ulcer is thought to be infection [2]. Infectious causes can range from *Staphylococcus* and *Streptococcus* bacteria to Neglected tropical diseases (NTD) such as leishmaniasis, leprosy and Buruli ulcers. As early treatment can improve patient outcomes, knowledge regarding the patient journey before a consultation with a health care professional is sought. Shortening this period would provide earlier treatment for patients and thus improve patient outcomes [3-5].

Peru is an upper middle income country with a population of over 30 million and a health expenditure per capita of $354 (in comparison the UK spends $3598) [6]. Following researcher observations, Peruvians can consult a doctor for free at their local healthcare centre; these centres provide primary and emergency care to the population. Patients can be diagnosed and managed by these centres, prescribed medications or referred to a secondary healthcare facility. Medications are free at the healthcare centre if the pharmacy stocks them, otherwise the patient must pay at a private retailer. Likewise, if the healthcare centre that they are registered with is closed, patient must pay to attend a different one. Only emergencies would be treated free of charge at a different healthcare centre. These centres often cover wide geographical areas, service a significant sized population and are staffed by few doctors.

In Peru, cutaneous leishmaniasis is an important cause of skin ulcers and is considered endemic in the country. In 2011, 11,204 cases were reported [7]. Parasitological tests are the gold standard needed for diagnosing cutaneous leishmaniasis [3]; however, these tests are currently only available in Lima. Buruli ulcers are relatively uncommon; only 8 are reported in current literature [8]. Leprosy is not considered to be a problem in the country; however current research suggests that the current incidence of new cases could be under-reported [9]. The prevalence of other types of skin ulcers is unknown. Cutaneous leishmaniasis contributes significantly to the burden of

disease in Peru and causes high socio-economic loss. It is therefore a concern to a developing country such as Peru [10,11].

Studying the health beliefs and behaviours of a patient can help us to understand the patient journey; this is important when considering that delays damage patient outcomes [3,12]. A health belief can be considered to be a psychological and sociological derived construct that can be used to predict health behaviours. A health behaviour can be described as any action that encourages or discourages disease, health and well-being. In describing the health beliefs and behaviours of the population in question, it is possible to begin to understand why a patient will consult or not consult a health care professional and what barriers may prevent them from seeking immediate help [13,14].

An example of a barrier is poor accessibility to healthcare facilities. Many people in Peru live in rural areas such as in the Amazon basin or in the Andes, therefore may struggle to access healthcare. In this case, health behaviour (help seeking, self-treatment) is influenced by both beliefs and external barriers (accessibility). By identifying barriers such as these, they may be addressed by regional health authorities and perhaps reduced or eliminated. This is important as early treatment improves patient outcomes [3-5].

The health belief model (HBM) can be used to analyse the complex health behaviours of different populations (Figure 1) [15]. This model breaks down a patient's decision process into different variables: the perceived susceptibility to a disease, the perceived severity of the disease, the perceived benefits of seeking treatment and the perceived barriers to getting the treatment. The model also proposes that specific cues could also trigger the decision to consult a doctor, such as family pressure. The HBM recognises that a person will take a health-related action if they can avoid a negative health outcome. They will also take this action if they have positive expectations and if they believe that the action they carry out will be successful. This model can help us to understand what drives people with skin ulcers to consult a doctor [14].

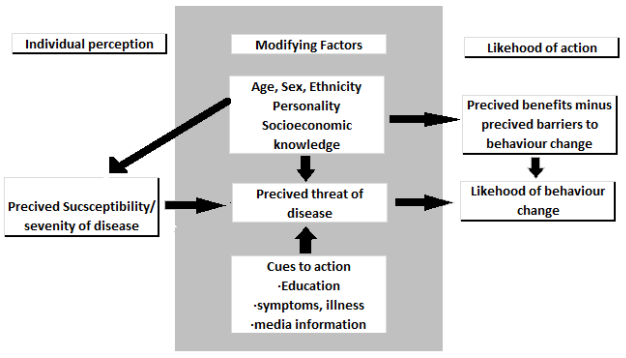

Figure 1: Health belief model [13].

Kleinman suggests that a patient can seek healthcare advice from different sources (Figure 2) [16]. He describes three main types: professional, popular and folk health care. The professional health care sector includes professional health care services where workers receive a formal education and are regulated. The popular health care sector includes informal advice from the media as well as advice from family and friends. Finally the folk health care sector represents traditional medicine. The latter two sources of health care may interrupt and delay a patient with a skin ulcer from consulting a professional health care practitioner. For example, people may use folk remedies before seeking professional help. Therefore this also needs to be researched when identifying patient behaviours.

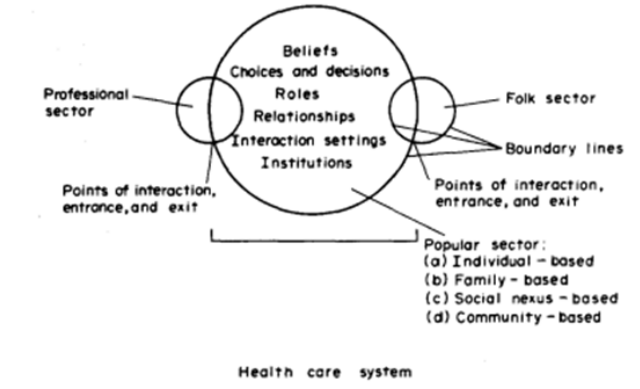

Figure 2: Kleinman's model of healthcare.

A literature review was conducted using the Medline database, searching for English language studies. To our knowledge there has been no research conducted concerning the help seeking behaviours of people with ulcers in Peru. This is despite the importance of ensuring that patients consult a doctor in an appropriate timeframe and thus the significance of identifying barriers that impede this process. Qualitative methodology is appropriate to address the lack of data currently available. This methodology can provide a rich and detailed data set about an unexplored area of healthcare and "… be an important tool in understanding the emotions, perceptions and actions of people who suffer a medical condition…" [17].

Materials and Methods

Design

A qualitative study was carried out using semi-structured interviews. All interviews were conducted in Yurimaguas during February 2015. Yurimaguas is the capital of the Alto Amazonas region in Peru and has a high and rising number of reported cases of cutaneous leishmaniasis [18]. Ethical approval was obtained from the University of Birmingham's BMedSc Population Sciences and Humanities Internal Ethics Review Committee, as well as from the Institutional Research Ethics Committee of the National Institute of Health in Peru.

Participants and recruitment

People over the age of 18 with any type of skin ulcer were recruited via convenience sampling. Patients were excluded if they did not speak English or Spanish fluently, as this meant effective communication would not have been possible. Patients were also excluded if they were not a resident of Peru; this population would have access to different health care services and have different cultural norms and therefore be significantly different from the population in question. Participants were identified using a database compiled by the local health authority to record suspected cutaneous leishmaniasis cases. Not every patient on the register was invited to become part of the research due to the

difficulty locating them. The participants who were recruited had consulted a doctor in between November 2013 to December 2014.

Data collection

Participants were invited to join the study by a local doctor, who also acted as the interpreter during the interviews. All participants who were approached by the primary researcher (MG) and the interpreter consented to becoming a part of the study. None were excluded. The interviews took place in the participants' homes or a local health centre. Verbal informed consent was obtained and recorded at the beginning of each interview. The interpreter then signed a consent form to confirm that consent had been given. All interviews were carried out with the researcher communicating in English and the interviewee communicating in Spanish. The interpreter translated as accurately as possible. All interviews were audio recorded and then transcribed verbatim. The topic guide was based upon the HBM and Kleinman's model of healthcare. The topics were structured around the main areas described by the HBM: perceived susceptibility to a disease, perceived severity of a disease, perceived barriers to seeking treatment, perceived benefits of the treatment and the cues to action that might have prompted a consultation. The HBM has previously been employed to explore such issues in developing countries. It is a validated model to describe health related beliefs and behaviours [15]. Topics were also included about where the participants sourced their healthcare: the folk sector, the popular sector and the professional sector.

Data analysis

The data was analysed using qualitative thematic analysis, as described by Braun and Clarke [19]. Analysis was undertaken after the data was collected. Saturation was not reached as this was an exploratory study with a small sample. The English parts of the audio recordings were written up and read over to allow familiarisation with the data. The data was then coded and these codes were plotted on a mind map to explore patterns within the data. Themes were then developed. Finally, deviant case analysis was performed to ensure that the themes were applicable to the majority of the participants. The views of participants who did not fit into the themes were analysed further to see whether the themes needed to be adapted. This added rigour to the analytical approach.

Results

A total of nine participants were interviewed (Table 1) – four males and five females. Their ethnic backgrounds were not recorded. The participants were aged between 18 to 70 years old and the time it took a participant to consult a doctor ranged from 15 days to 11 months. Through conventional thematic content analysis, three major themes emerged from the data. Quotes have been edited to correct the translator's English and to help narrative flow, however the meaning remains the same. The translator often used the third person during his translations; this was his way of best conveying what the participant was saying and is a result of English not being his native language.

Theme 1 – Alternative treatments

"So many people use herbal medicine before going to the doctor." Participant 5

Eight out of the nine participants used treatments that had not been recommended to them by a formal health care professional. Treatments included battery acid, local fruit and vegetables and over the counter medications (see Table 2). This is in accordance with Kleinman's model of healthcare which suggests that people may seek health care from the different sources other than the "formal sector" [16].

Most participants tended to use their own treatments before they went to a doctor. The main reason they did so was because family and friends encouraged them to use their own treatments rather than seek formal advice. This advice often encouraged the use of multiple remedies before the participants desisted and resorted to consulting a professional.

Participant Number	Sex	Age	Diagnosis	Lives in Yurimaguas	Time until consulting	Use of additional treatment not prescribed by a doctor
1	Male	18	Cutaneous leishmaniasis	No	15 days	Yes
2	Female	36	Cutaneous leishmaniasis	Yes	1 month	Yes
3	Female	37	Suspected mucocutaneous leishmaniasis	Yes	1 month*	Yes
4	Male	63	Cutaneous leishmaniasis	No	2 months	Yes
5	Male	49	Cutaneous leishmaniasis	Yes	5 months	Yes
6	Female	59	Basal cell carcinoma	Yes	11 months	Yes
7	Female	57	Cutaneous leishmaniasis	Yes	2 months	Yes
8	Male	37	Folliculitis	Yes	1 month	No
9	Female	70	Worm infection	Yes	4 days	Yes

*this is the initial time to consult, after the initial investigations a strike occurred and so the participant has not returned to the health care centre despite it now being 9 months after the initial consultation.

Table 1: Patient demographics.

"Because her neighbour suggested she use… banana skins. This skin, she burned this skin and… she applied it to her ulcer. When she noted that nothing happened she used another… suggestion. She started to bite tobacco and applied this liquid on her ulcer. Also she… melted Eucalypto… and she applied this on her ulcer. And also she used ginger." Participant 2

"Because a person who lives next to his house told him that that was a good treatment and another person said that treatment works." Participant 4

"His friend told him little things to do to improve or treat that wound… First he crumbled a little tablet of Ampicillin… and this particle he put this little particle in his… ulcer. Nothing happened and he also cut a battery and… put this liquid over the ulcer. But this liquid is, first he, he put that battery on fire and this hot liquid; he put this hot liquid on his ulcer. Nothing happened…" Participant 5

Over the counter drugs used	Other methods stated to have been used
Clotrimazole cream	Sangre de grado sap
	Banana skin
	Tobacco
	Eucalypto paste
Crushed ampicillin tablet	Ginger
	Colpa oil
	Resin
	Lemon
Ethanol	Spice
	Battery acid
	Melted sugar
	Hot metal
Creolina	Treatment by Shaman (removal of worms with a straw)
	Patiquina

Table 2: List of alternative treatments patients stated that they had used.

The point at which the participant desisted using their own treatment and instead consulted a doctor was different in each case. It appears that whilst many participants chose to use their own treatments first, doctors are often seen as a more effective treatment. Participants will consult with them once they have exhausted their own treatments as this is the point that they now perceive there to be a greater benefit in seeing a doctor:

"He went to the health centre because he doesn't see an effect on it." Participant 5

"Patients went to the doctor because the ulcer… was big and vegetables… don't work." Participant 1

The main reason a participant used their own treatment after seeing a doctor was because of the perceived lack of benefit to continuing formal treatment. For example, there is a delay between consultation and treatment when an ulcer is suspected to be leishmaniasis. The laboratory tests needed to confirm the diagnoses are only found in Lima and this can delay the ensuing treatment by two or three weeks. Participants were scared about leaving the ulcer to worsen without treatment and so were encouraged to use their own.

"We have to wait for the results of this test… for that reason she started to apply traditional medicine." Participant 2

Many participants believed that their own methods or those proposed to them by family and friends were effective to some extent. They would try these remedies first, believing there to be a chance that they might work. This behaviour decreased if they perceived the disease to be severe and believe a more effective treatment was necessary. This behaviour also decreased if they perceived there to be no further benefit to continuing their own remedies.

An important point to note is that many treatment regimens had little basis in local traditions. Most treatments were based on hearsay and past experiences. Thus it appears that in the population sampled there was minimal "traditional medicine" involved, with only one lady opting to visit a shaman.

Overall, many of the participants have tried their own treatments during the course of their disease. Many treatments were identified and there are differing reasons for using them. Sometimes these treatments are inherently harmful. Furthermore, these treatments often delay health-seeking behaviour. While many participants believe there to be some benefit to using their own treatments, there appears to be little motivation to seek professional health care. Therefore such treatments play an important role in the patient journey, both before and after consultation.

Theme 2 – Seeking advice from family and friends

As stated previously, a reason why participants used alternative treatments was due to advice given by a friend or family member. The participants would use these treatments instead of going to see a doctor. This type of health-seeking is considered part of the popular sector in Kleinman's model of healthcare.

"He used all the treatments his friends told him." Participant 5

There are several reasons why participants viewed this advice as credible. Much of the advice came from people who believed that when they had used their own treatment, these treatments were successful. This is despite the fact skin ulcers can resolve spontaneously, with or without treatment. This apparent success could have been because of the natural progression of the disease.

"Neighbour who had the herbal treatment… his neighbour is good." Participant 4

"She got better three months after she started… traditional medicine." Participant 2

"A shaman treated her and she got better, for that reason… she told our patient she needs to go to the… shaman." Participant 9

Following this, several participants then stated that they themselves would now recommend the treatments that they had used to their families and friends. This shows how the cycle continues to propagate itself. Patients see a perceived benefit to taking their own treatments as they have been shown to be successful in the past. Thus they are more likely to take them themselves.

"She would go with me immediately to the… shaman." Participant 9

"Well, the advice I will say to my neighbour is to use the same medicine… I used because I got better with that traditional medicine." Participant 2

Several participants stated that they would instead recommend consulting a professional health care worker to a family or a friend with a skin ulcer. This was primarily because they had received successful treatment from the doctor, but also because the remedies that they had prescribed themselves had been ineffective. This meant that they now perceived a greater benefit in seeking formal healthcare rather than informal.

"And you need… to visit a doctor… and use injectable medicine." Participant 4

"If he had another ulcer, he would go straight to the health care centre to see a doctor." Participant 5

As well as this, some participants were pressured into consulting a doctor by their relatives. This "cue to action" shows that doctors are often seen as a way to receive effective treatment. It also shows that modern medicines as well as home remedies can be advocated by friends and family, although in several cases this was after the participant had already tried their own remedies.

"His son told him, that it is necessary to go to the health centre and I will join you." Participant 4

"His wife forced him to go see the doctor." Participant 5

"Because his wife told him you have to go." Participant 8

Seeking advice from family and friends was an important part of the patient journey for participants with skin ulcers. Whilst some were encouraged to see a doctor, others were encouraged to try a range of alternative treatments that delay them seeking formal care. Participants who have been met with success by these treatments would then go on to advocate this approach to friends and family. Even though this is also true of participants who have had success with a doctor, none of the participants who were interviewed discussed a family member or friend's positive experiences with formal healthcare.

Theme 3 – Barriers to health care

Whilst several participants expressed a desire to consult a health care professional, several barriers impeded this process and thus delayed access to treatment. For example, in several cases a participant was unable to see a doctor, as the doctor was on strike. Only emergency care was accessible to those unable to afford private healthcare; as patients only receive free healthcare at their registered centre. Skin ulcers are not considered as an emergency; therefore several participants were denied consultations with a health care worker.

"She must wait for the results… to return to the doctor to know the results a strike started... the health centre didn't work for one month." Participant 3

"Well the reason was… last year… doctors were on strike... maybe six months." Participant 7

Another barrier to seeking health care is the participants' lack of knowledge about the severity or nature of the disease. There was little drive to consult a doctor in participants who did not consider their disease to be serious. When the disease became more serious, participants would consult a doctor.

"And this ulcer didn't hurt, this ulcer didn't itch. And for that reason she just looked at that ulcer and she didn't do anything." Participant 6

"He doesn't think this is a bad or serious wound." Participant 8

Indeed, the participants who described how worried and scared they had been, as well those who described the disease as serious, were more likely to consult a health care professional sooner. Patients who knew more about the disease were more likely to view it as serious, therefore greater knowledge about the seriousness of these diseases could encourage more people to consult a doctor faster.

"He thinks that it's serious if you don't treat… before the complications." Participant 1

"Her sister's friends told her that this is leishmaniasis and there is a treatment." Participant 7

A further barrier to health care is living in a rural location. Some participants lived in hard to access areas, far away from a healthcare facility. Participants often waited until they had another reason (such as work) to visit the city to see the doctor as this journey could take several days. These participants were disadvantaged when accessing appropriate healthcare as certain tests and treatments are only offered in a major town such as Yurimaguas.

"And he's in Yurimaguas only Saturday and today because he studies in a private school those days… and here in Yurimaguas he has no place to stay." Participant 1

"Well the main thing that makes it difficult for him go to a health centre… is because he lives far, far away from the city." Participant 4

In the previous themes described, three more barriers were presented which also impede patients from seeking a consultation with a doctor. These were home remedies, informal advice from family and friends and finally the length of time it takes to receive a confirmed diagnosis of leishmaniasis. The latter means patients face long delays before being able to start treatment. Home remedies are included in this list even though it is possible that they are used because there are other barriers and people use them rather than doing nothing. However there is a lack of information in this data set to see whether this is the case and therefore it is assumed that home remedies delay treatment because people would rather use them than seek formal care.

Discussion

To our knowledge there has been no previous research that has investigated the health beliefs and behaviours of patients suffering from skin ulcers in Peru. This paper introduced concepts specific to the population of Yurimaguas and the surrounding areas. We discussed beliefs and behaviours in the participant group; however they link with the components of the HBM and are therefore likely to be similar in other patients with skin ulcers. For example the use of alternative treatments, the belief that advice from family and friends is reliable and the fact that many people fail to appreciate how serious their illness is. There are several significant barriers that patients might encounter before they consult a doctor. This is despite the fact that there is free health care available to all in this region. To improve patient outcomes these barriers must be reduced, as patients would consult a professional health care worker sooner.

Home treatment

An issue that has been identified is the amount of people who use alternative treatments. This is in accordance with Kleinman's model of healthcare, which states that people might access health care other than that considered to be professional. This is an issue for some people because they delay going to see the doctor in favour of trialling these remedies. It is evident that participants perceive there to be a benefit to using these and therefore have less of a drive to seek professional health care advice. This benefit is further reinforced by many participants being advised to use these treatments by family and friends. The advice seems valid as these treatments often offer apparent success. Together with the significant barriers that are present in accessing professional treatment, the appeal of these homemade remedies is stronger than the drive to consult a professional healthcare worker. This could be remedied in various ways. The strength of informal advice has already been shown above. If doctors were to encourage patients to talk to family and friends about the success that they had with modern medicine, it would increase the perceived benefit of seeking formal advice within the community. This would create a positive cycle of community consultations, thus shortening the time it takes for people to consult a doctor. As well as this, there has been research that analysed herbal remedies in the treatment of leishmaniasis in Peru [20]. Data such as this could be considered when informing patients of more attractive alternatives than the herbal remedies that currently seem to be used. This would encourage patients who might be sceptical of modern medicine to try more proven herbal remedies than this research has reported.

Increasing knowledge about the disease

As well as this, media campaigns could be created that increase the public's awareness of the severity of leaving any ulcer untreated. Every participant owned a TV in their house and thus would be able to see advertisements. These campaigns would inform people of the potential complications of ulcers, as well as the fact there are many different kinds of ulcers, each needing its own treatment. This would increase the perceived severity of having a skin ulcer and thus increase the drive to see a doctor. These campaigns could also reduce the perceived benefit of taking your own remedies whilst increasing the perceived benefit of consulting a doctor. They could do this by clarifying why home remedies often appear to be successful through explaining the natural disease progression. Patients might be prone to listen to these campaigns as most home remedies do not seem to be rooted in local traditions. It might therefore be more acceptable to disclaim their authenticity. By decreasing the benefit associated with using these remedies, patients are more likely to go to a doctor as there is a less compelling alternative. Research supports the use of media campaigns to affect the health behaviours of patients [21]. Indeed, media campaigns have been used to influence ulcer patients [22]. However it is important to note that these studies explored specific populations and therefore cannot be generalised to this population.

Alleviating doctor strikes

Providing free leishmaniasis blood tests at any healthcare centre could limit the effect of future strike action by doctors. Patients currently have to pay to go to local healthcare centres that they are not registered with. They might not want to pay for this blood test and so not have access to the appropriate tests. If all the doctors are on strike then it could be possible to train other professionals to take blood and set up alternative ulcer clinics. Although it is beyond the scope of this paper to discuss the ethical arguments regarding any conflict between state and the workforce, it should be noted that leishmaniasis is endemic in Peru [7]. By providing free blood tests at all health centres, or at clinics independent to the local doctors, this may encourage more participants to seek professional help.

Other barriers

To minimise the diagnostic lag time of Leishmania infections, towns such as Yurimaguas could have their own diagnostic equipment. Likewise, the current inaccessibility for patients living in a rural setting needs to be addressed. Both these factors present barriers to patients seeking healthcare; removing them would reduce the negative influence on a patient's decision to consult a doctor. The cost and effectiveness of suggestions put forward in the above text are beyond the scope of this research. They would require further study into their feasibility and effectiveness.

Strengths and limitations

It is important to note that the use of qualitative methodology and the low sample size used means that the results cannot be fully generalisable to the greater population. Whilst the ideas put forward above to counter the apparent problems encountered provide an interesting discussion, it is not yet clear whether these problems are indeed prevalent or generalisable to the greater population. More research needs to be carried out before any policy change takes place. As well as this, the low sample size also meant saturation of data was not reached. The limited time and resources available to the researcher were the main reasons why sample size was low. Potential participants often lived very far away in hard to reach locations. The results are also not generalisable to people who chose not to consult a doctor. Due to the difficulty in locating these patients, they were not included in this study and so this limitation was necessary. It is also important to note that patients were asked to retrospectively reflect on experiences as far back as 2013. This could have introduced recall bias and thus affected the results. Data might also have been missed during the interviews due to translator error. Finally, member validation was not used during this study; this was because patient contact details were not recorded in order to protect confidentiality. The use of semi-structured interviews is a strength of this research. They ensured that the topics could be discussed in more depth and consequently a rich data set was produced. The researcher also conducted the interviews in a reflexive manner, thus ensuring that the following interviews would be carried out more effectively. Deviant case analysis also ensured the analysis to be more rigorous, as the researcher's analysis was continually challenged.

Recommendations for future research

In the future the health literacy and knowledge of the disease that participants have could be analysed in greater detail in future qualitative research. The educational attainment of participants was not reported in this study and could influence a person's knowledge of the disease. Better educated people might know more about different diseases and so might act differently. As well as this, only two of the participants were from a rural population and thus were under represented in this study. This population could again be looked at in greater detail in future research. In addition, the health beliefs and behaviours of people who choose not to consult a health care professional could also be studied. In this research only patients who had consulted a doctor were included due to difficulties in locating

these patients. The research could also be taken forward in a quantitative manner. A cross sectional prevalence survey, asking about the beliefs and behaviours outlined above, could further explore this issue to discover what the true prevalence is of the problems encountered. This would then help the public health authorities apply schemes to support this population in the areas where they are needed, if they are needed.

Conclusion

This study identified several patient beliefs, behaviours and barriers that prevent patients with skin ulcers in Peru from consulting a doctor. The themes presented appear to suggest that the use of the folk and popular health care sectors may impede patients from consulting the professional health care sector. This is along with several other barriers that have been discussed, such as the lack of knowledge about skin ulcers. In order to reduce the time it takes for patients to consult a doctor and improve patient outcomes, these issues need to be addressed. Developing a questionnaire for the quantitative measurement of these beliefs, behaviours and barriers could be carried out in the future. As well as this, various public health schemes could be launched, such as TV adverts that can begin to address the problems identified in this paper. By improving patient outcomes this would go some way to improve the public health situation of NTD such as Leishmaniasis [3].

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References

1. Agale SV (2013) Chronic leg ulcers: epidemiology, aetiopathogenesis, and management. Ulcers 2013: 1-9.
2. Zeegelaar JE1, Stroïnk AC, Steketee WH, Faber WR, van der Wal AC, et al. (2006) Etiology and incidence of chronic ulcers in Blantyre, Malawi. Int J Dermatol 45: 933-936.
3. Faber WR, Hay RJ, Naafs B (2006) Imported Skin diseases (1stedn.) Elsevier, Maaarsen.
4. Mahé A (2001) Bacterial skin infections in a tropical environment. Curr Opin Infect Dis 14: 123-126.
5. Alonso LM, Alvar J (2010) Stigmatizing neglected tropical diseases: a systematic review. Social Medicine 5: 218-227.
6. The World Bank Data. (accessed 28th April 2015).
7. World Health Organisation (2014) Global Health Observatory Data Repository – Number of cases of Cutaneous Leishmaniasis reported data by country.
8. Guerra H, Palomino JC, Falconí E, Bravo F, Donaires N, et al. (2008) Mycobacterium ulcerans disease, Peru. Emerg Infect Dis 14: 373-377.
9. Burstein Z (2014) [Critical appraisal about control programs and elimination of leprosy in Peru, and its consequences for Peru and America]. Rev Peru Med Exp Salud Publica 31: 336-342.
10. Engels D, Savioli L (2006) Reconsidering the underestimated burden caused by neglected tropical diseases. Trends Parasitol 22: 363-366.
11. Robinson DC, Hay RJ (1986) Tropical ulcer in Zambia. Trans R Soc Trop Med Hyg 80: 132-137.
12. Coe AB, Gatewood SB, Moczygemba LR, Goode JV, Beckner JO (2012) The use of the health belief model to assess predictors of intent to receive the novel (2009) H1N1 influenza vaccine. Inov Pharm 3: 1-11.
13. Baum A, Newman S, Weinman J, West R (1997) Cambridge Handbook of Psychology, Health and Medicine (1stedn.) Cambridge University Press, Cambridge.
14. Campbell SM, Roland MO (1996) Why do people consult the doctor? Fam Pract 13: 75-83.
15. Volk JE, Koopman C (2001) Factors associated with condom use in Kenya: a test of the health belief model. AIDS Educ Prev 13: 495-508.
16. Kleinman A (1978) Concepts and a model for the comparison of medical systems as cultural systems. Soc Sci Med 12: 85-95.
17. Holloway I (2005) Qualitative Research in Health Care. McGraw-Hill Education, UK.
18. Ministerio de Salud (2014) Plan Nacional de Preparación y Respuesta frente a la Fiebre de Chikungunya - Perú, 2014.
19. Todd NJ, Jones SH, Lobban FA (2012) "Recovery" in bipolar disorder: how can service users be supported through a self-management intervention? A qualitative focus group study. J Ment Health 21: 114-126.
20. Estevez Y, Castillo D, Pisango MT, Arevalo J, Rojas R, et al. (2007) Evaluation of the leishmanicidal activity of plants used by Peruvian Chayahuita ethnic group. J Ethnopharmacol 114: 254-259.
21. Hodgson C, Lindsay P, Rubini F (2007) Can mass media influence emergency department visits for stroke? Stroke 38: 2115-2122.
22. Aujoulat I, Johnson C, Zinsou C, Guédénon A, Portaels F (2003) Psychosocial aspects of health seeking behaviours of patients with Buruli ulcer in southern Benin. Trop Med Int Health 8: 750-759.

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